# PHILADELPHIA, CLIMATE, AND INTERDEPENDENCE

GOAL Keep most of the world's societies functioning. Keep the major portion of the world's technological systems, food production capabilities, and ecosystems operating, in the face of violent climate change. Stabilize climate through CO/2 reduction to a working balance, and avoid a next glacial period.

THE PROBLEM Carbon dioxide (CO/2) in the atmosphere has risen in this century from around 290 to 345 parts per million. This is destabilizing our climate, with rapidly increasing destruction of food, life and property around the globe. The soil is depleted approximately 25% to 40% in those minerals and trace minerals which are essential for plant, animal, and human growth and life. Forests have been reduced about 40% from 2000 years ago (remember that it is forests and photosynthesis which is the greatest reducer of CO/2).

There is a tremendous buildup of snow and ice in the polar areas. The weight of the additional ice and snow at the poles stresses the earth's crust and mantle. Molten magma beneath transmits the stresses globally. Wherever the crust is weak, earthquakes occur; wherever openings to the surface already exist, volcanoes erupt. Such events have become increasingly frequent.

We have record cold spells, tornadoes, flooding, shorter growing seasons, and 18% more snow coverage in the northern hemisphere in 1985 than the previous high, which was in 1973. It is the warming ("greenhouse effect") in the lower latitudes that raises and carries more moisture to the higher latitudes, resulting in increased cloud coverage and snow buildup.

The intensity of the climate changes is due to low latitude warming and high latitude increasing snow coverage. These areas are coming closer together geographically, and have a widening temperature difference. The greater the differential in temperature between the polar areas and the equatorial zone, the more rapid and turbulent the interchange of warm and cold air masses will be. Climate catastrophies are thereby speeding


# $CO_2$ & CLIMATE

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up and becoming more violent. This means more loss of food, property and lives. Look at all of this together, as one system going into transformation.

A complete scientific study of this problem would involve material from at least twenty five different specific fields of science. Geologists and glaciologists point out that we are already in the transition to the next glacial period. However a few other scientists, particularly climatologists, study a more narrow field and only indicate a warming or "greenhouse" effect. They come out with different conclusions through not having a complete analysis considering all the necessary factors.

SOLUTION REDUCE CO/2. This requires a massive worldwide soil and forest program, with a shift from fossil fuels to conservation and benign alternative energy technologies. This means participation from all communities, states, nations, in an international effort. A four-year buildup, followed by five years intensive work, will show us whether or not we can still slow and begin to reduce the CO/2. We will make our best effort to stop the increasing snow cover before it is too late — and improve and stabilize our environment at the same time. This will make survival possible.

Soil, forest, conservation, and alternative energy work mean a full employment program in the U.S. combined with international co-operation. Our job is to develop the best in solar energy (particularly note the La Jet Energy Co., five megawatt solar thermal electric plant, 40 miles from San Diego), wind, alcohol fuel, oil from plants, and much else. A specific 20 million job Earth

Regeneration Program, shown by specific industries for the U.S. economy, was presented by the Earth Regeneration Society in 1985 to national meetings of the Audubon Society and the World Future Society.

LOSS We have lost 10 to 20 million people that would not have had to die if we had started a full earth regeneration program ten years ago, planned for what was coming, and started a crisis management effort (note: Africa, India, South America, some parts of U.S.).

One half to a billion people may be lost in the next 10 to 20 years, no matter how good a counter program we run. This is the best possible situation.

A total of four billion at least are going to be at risk if no counter program is developed and carried through.

Droughts are caused by the great water shift and destruction of ecosystems (again note: Africa, India, South America and elsewhere). Volcanoes and earthquakes are accentuated and made worse by the increased pressure on the tectonic system note: Managua, Mexico, Alaska, Hawaii, Mount St. Helens in southern Washington). Increased tornadoes, winds, and storms are greatly increased by the turbulence created by the temperature differential (note: Anaheim, Texas, New England, Midwest, and Denver). We now have forest fires (North Carolina) and blizzards (Montana to the midwest) all happening at the same time and more and more unusual times of the year. Flooding is increasing from great additional rain and snowfall in the northern hemisphere (note: 50,000 flooded out in northern California, and with one more day of rain the whole City of Sacramento would have been flooded; Salt Lake and the Great Lakes). Crop loss from storms, flooding, freezing, drought (note: citrus in Florida, Canada losing 3/4 of its wheat in 1984, the midwest of the U.S.). The above represent billions of dollars of loss, and this is just the early years of the transition. All of these natural catastrophies effect human life directly nd then indirectly through the mounting financial cost as well as damaging or destroying the operating systems and basic investments themselves.

LOCAL PHILADELPHIA BENEFITS

The most direct benefits come from remineralizing soil (appropriate rock

INTERNATIONAL INVOLVEMENT

We look forward to the fullest participation by the United Nations, with special input from UNEP (U.N. Environment Program), FAO, UNESCO, and other U.N. bodies. Regional earth regeneration programs will cross national boundaries and thus require a level of combined action never before experienced. The emphasis now is on crisis management and a tremendous expansion of emergency soil, forest, conservation and energy work.

BACKGROUND INFORMATION

The world is already far advanced in its transition from a mild, nurturing, life-enhancing interglacial climate, the only climate we have ever known — into the next ice age.

During warm interglacial periods like the one just ending, plants and animals thrive and spread over much of the earth's surface. The atmospheric CO/2 count in the early part of this present interglacial period was about 275 parts per million (ppm). It has been gradually increasing as plants have used up the minerals in the soil and died, releasing their CO/2 into the atmosphere. Cutting down forests is hastening the process, and so is burning fossil fuels.
Now the CO/2 count is 345 ppm. It has been about 10,000 years since the last ice age (glacial period) — about as long as interglacial periods typically last. Increased atmospheric CO/2 has been associated with increases in ice volume over the last 140,000 years. The world has had glacial periods for over two million years. Our small planet is due for its next glacial period.

As the poles become colder and the equatorial latitudes warmer, more numerous and increasingly destructive windstorms are generated:

| | |
|---|---|
| In 1925 there were | 130 tornadoes |
| 1935 | 180 |
| 1945 | 121 |
| 1955 | 593 |
| 1965 | 899 |
| 1974 | 945 |

American Red Cross. Fund raising letter, March, 1986, by Marion R. McConnell, Chairperson, Board of Directors, writes: "September, October and November were the busiest and costliest three months in the 105 year history of the American Red Cross. Six hurricanes battered the U.S.

(minerals) in the soil — nutrients consisting of slowly fragmenting rock and the rock dust and other matter blown by winds or ground up and deposited by laciers of the preceeding ice ages.

Over time rains fall, winds blow, and the soil with its minerals is blown or washed away into streams and rivers which carry it ultimately out to sea. Sometimes visible from satellites, huge plumes of fine air-borne soil particles can be seen as a dense haze over the Atlantic.

There is data from many disciplines confirming the transition from interglacial to glacial conditions and it is clear that the consequences are a thousand times more urgent, the future a thousand times more grim. The turn-around time from interglacial to glacial period is usually very short, perhaps only a few decades — and it has already begun. There is very little time in which to launch a massive remineralization project, plant trees (thousands and millions of trees) and — to the dismay of the petroleum industry — stop burning fossil fuels.

What is needed is nothing less than a global effort, a total rearrangement of priorities, a restructuring of the economy, and a world-wide cooperative effort such as has never before been required of us. There have been some who have achieved their wealth and power by means of the mining and exploitation of fossil fuels, acting through certain Government and science organizations, and who would like to keep us ignorant of our real destiny. A few may wish to remain ignorant of it themselves. There are, however, some individuals in the oil industry, mainly in research, who do know the facts about our cooling climate.

We must remineralize our soils. In 1983 Czechoslovakia flew 3000 tons of rock dust over about 2500 acres of their worst forest area to save trees in very acidic soil. And during the last two years massive amounts of rock dust have been applied to forests and crops in half a dozen places in Europe and the U.S. with excellent results: dying trees have gradually been revitalized.

We can plant trees in our own neighborhoods, stop using materials and products made from petroleum, and oppose the destruction of our own and other nations' forests. If we don't do these things, what does the future hold? Drought, floods, storms, earthquakes, volcano eruptions, famine, and cold — severe cold -- for 90,000 years. Millions have already died in the first phases of climate change. Millions more will die, even with the best counter program. We must begin immediately to formulate and implement an earth regeneration program!

Start now. We have in front of us four years of heavy construction of alternative energy facilities, soil work, and tree planting. Then four to six years of continuing work. We will see what results we are getting in slowing the rise of CO/2. What will be our chances for the future? New trees take about six years to have much effect on taking out CO/2. Faster growth of existing forests may have more effect on CO/2 in the first few years of an earth regeneration program. Optimize. Start work now. Bring every possible living soul into this effort as much as poosible.

Watch the increasing rate at which the dying forests burn. Offset this with rock dust remineralization (as in Czechoslovakia, Austria, Germany). Watch the increasing snow cover in the northern hemisphere, and the rising intensity of each aspect of climate.

It is our greatest survival effort. It is a revival of identification with the earth (and our atmosphere). It is a totally new human experience, on this level. And it will be the last for most of us, if we don't succeed.

DEDICATION We call for a massive rededication from the gross national product of commercial and government enterprize into this survival program. This kind of work is a primary necessity over the whole planet; and a massive widespread effort must take precedence over wasteful consumption in our economy. This tremendous working together campaign must take precedence over the many destructive and wasteful directions along which some leaders are trying to move us.

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